NATURAL RESOURCES CONSERVATION SERVICE

SPECIFICATION GUIDE

PRESCRIBED GRAZING

(Ac.)

CODE 528

DEFINITION

Managing the controlled harvest of vegetation with grazing animals.

PLANS AND SPECIFICATIONS

The prescribed grazing plan shall conform to all applicable federal, state, and local laws. Seek measures to avoid adverse affects to endangered, threatened, and candidate species and their habitats.

Prepare a prescribed grazing plan for all management units where grazing will occur according to state standards and specifications.

Guidelines for developing a prescribed grazing plan include:

1. Goals and Objectives clearly stated.
2. Resource Inventory (i.e. Field numbers with acreages and map or sketch, resource condition or similarity indices, existing structures, facilities, soil).
3. Forage Inventory of the expected forage quality, quantity and species of forage in each management unit(s) during the grazing period. Ecological Site Descriptions and Forage Suitability Groups will be used as appropriate to inventory.
4. Forage-Animal Balance developed as a sustainable grazing plan for the management unit(s), which insure forage produced or available meets forage demand of livestock and/or wildlife of concern. Supplemental feed will be addressed if demand exceeds timely production.
5. Grazing Plan developed for livestock that identifies periods of grazing, rest, and other treatment activities for each management unit. Identify target grazing pressure to achieve a balance of lower ecological stable states and higher ecological stable states for wildlife plants and animals of concern.
6. Contingency plan developed that details potential problems (i.e., severe drought, flooding) and serves as a guide for adjusting the grazing prescription to ensure resource management and economic feasibility without resource degradation.
7. Monitoring plan developed with appropriate records to assess whether the grazing strategy is meeting objectives. Identify the key area(s) and key plant(s) that the manager should evaluate in making grazing management decisions. In pastureland the designated key specie(s) and minimum leaf length to begin and end grazing and leaf length at the end of the growing season (prior to the first killing frost) will be identified.

A prescribed grazing schedule is a system in which two or more grazing units are alternately deferred or rested and grazed in a planned sequence over a period of years. The period of nongrazing can be throughout the year or during the growing season of the key plant(s). Prescribed grazing schedules for grazing programs will include the following additional information:

A prescribed grazing schedule will be prepared for all fields and pastures incorporating any additional feed supplementation for the operating unit or portion of an operating unit being addressed. Grazing schedules will be recorded in a manner that is readily understood and usable by the decision-maker in their daily operations. The manner of documentation will depend upon the size and complexity of the operating unit and the details required for a grazing prescription.

Examples of the more common grazing systems used include the following:

1. Alternate Rotation Grazing (Switchback) is a system in which two pastures are alternately rested and grazed. The grazed and rested portions are reversed each year. The minimum rest period is 30 days and may be as long as one year on rangeland and dryland pastures. On irrigated pastures with adequate water the minimum rest period is 20 days and should not exceed 40 days during the growing season.

2. Deferred Rotation Grazing is a system where seasonal deferment is rotated among pastures each year and the system will need to follow through a complete cycle where each pasture receives a full growing season deferment on the Key Specie(s) a minimum of once every three years.

3. Rest Rotation Grazing is a system where the stocking rate is based on that part of the range that is grazed each year rather than on the whole unit as with other grazing systems. This results in lower initial stocking rates until enough improvement is obtained to offset this loss. This type of grazing system has the most applicability where grazing is limited primarily to the growing season due to kind or class of livestock used or climatic limitations.

4. Short Duration Grazing (cell) is a system usually consisting of eight or more pastures in a very intensively managed scheme. Grazing periods are short (from about 1 to 10 days) and rest/recovery periods ranging from 30 to 90 days or longer. The length of the rest period is determined on the rate of plant growth and associated climate. During fast growth the rest period is about 30 days. During slow growth the rest period ranges from 60 to 90 days and in very dry or drought conditions the rest period is longer. The success of this system is based on the rest period needed by the plants to replenish carbohydrate reserves and produce new growth available for grazing by livestock. When properly applied this system will normally remove only 20% to 30% of the available forage during a single grazing event during the rapid growth stage.

For additional examples of grazing schedules refer to the National Range and Pasture Handbook Chapter 5 Section 1 and the Special Report: GRASS: The stockman’s crop How to harvest more of it.

An overall inventory of forage, feed, animals and forage supply vs. demand will be prepared. The harvest efficiency of grazing animals will also be used in setting initial suggested stocking rates. For Continuous Grazing and Alternate Rotation Grazing (Switchback) managed grazing systems harvest efficiencies of 20- 25 percent will be used. For intensive grazing systems with 3-7 pastures per herd harvest efficiencies of 25-30 will be used. For more intensively managed grazing systems with 8 or more pastures per herd harvest efficiencies of up to 30-35 percent will be used. Based on the use of harvest efficiencies forage demand, expressed as a standard animal unit month (AUM) will be 900 pounds of air-dry forage. Refer to the National Range and Pasture Handbook section 600.0510.

Water in many cases is the limiting factor for prescribed grazing. Water is a facilitating tool which will aide in the distribution of livestock and wildlife within a pasture and from pasture to pasture. A water budget identifying livestock and wildlife needs will be developed for the prescribed grazing pastures. Reference the National Range and Pasture Handbook for consumption rates and placement.

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The Degree of Use allowable on Rangeland, Native Pasture, and land grazed by wildlife will be applied as follows:

1. The degree of use is limited to 50% by weight of the current season's growth of the key specie(s) when the grazing is continuous and during the current growing season. The growing season will be considered as the period from March 15 to October 31.
2. The degree of use is limited to 65% by weight of the current season's growth when the grazing is limited to the dormant season. In this situation the utilization check should be made shortly prior to the beginning of the new growing season.
3. For High Intensity Low Frequency/Short Duration/Cell grazing use is limited to 50% by weight of the key specie(s) available at the time of the first grazing during the growing season. Subsequent grazings are limited to 50% of the new growth produced between grazing periods. For systems that are grazed during the dormant season, vegetation for grazing will need to be stockpiled during the growing season for later use. Maximum use will not exceed 1 or 2 as described above.
4. In riparian areas it is important to maintain sufficient vegetation (herbaceous and woody) to trap sediments during runoff periods. Limiting use to 50% by weight of the key specie(s) will normally be adequate. However, season of use will need to be monitored more closely so that adequate vegetation is in place during runoff events.
5. On slopes over 20%, allowable use will decrease by 10% for each 10% increase in slope.
6. When annual vegetation is dominant the degree of use will be determined locally. The goal will be that adequate cover is maintained to prevent soil erosion. Use will not exceed 60%.

The use of worksheets as outlined in the NRCS National Range and Pasture Handbook including Exhibit 4-7 Worksheet For Determining Similarity Index, Exhibit 4-3 NRCS–Range 414 Proper Grazing Use, Exhibit 4-6 Trend Determination Worksheet, Exhibit 4-8 Rangeland Health Ecological Attributes Worksheet, Exhibit 5-2 Forage Inventory Worksheet, Exhibit 5-6 Prescribed Grazing Schedule Worksheet, Exhibit 6-1 Livestock and Wildlife Summary and data Sheet, and Exhibit 4-8 Rangeland Health Ecological Attributes Worksheet will be used during various levels of planning and application. Colorado also has state identified job sheets and worksheets of similar format that can be used, these are: Prescribed Grazing: Similarity Index Worksheet 528 (1); Inventory Work Sheet 528 (2); Livestock, Forage, and Feed Worksheet 528 (3), Apparent Trend Worksheet 528 (4); Utilization Worksheet 528 (5); Prescribed Grazing Schedule Work Sheet 528 (6); and Pasture Management Worksheet Sheet 528 (7). Similar worksheets may be utilized in Colorado to address the planning and application needs given they meet the minimum information outlined in the Guide Sheets.

ADDITIONAL SPECIFICATION FOR IRRIGATED AND NON IRRIGATED PASTURES

These pastures do not normally have the diversity and composition of species to incorporate the key specie(s) and percent use monitoring specifications. A combination of principles from Prescribed Grazing (528), the National Range and Pasture Handbook Chapter 5 section 2, and Forage Harvest Management (511) will need to be incorporated into these pastures.

On irrigated pastures the system will be designed so that the rest periods between grazing will range from 20 to 40 days. Avoid grazing during times when soil is wet to prevent soil compaction and vegetative and root plant damage.

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In tame and introduced pastures where grazing is the principle method of harvest and intermittent cultural practices are utilized to maintain the stand viability the following grazing heights will be maintained

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Key Forage Species	**Minimum Starting Height (inches)**	**Minimum Height During Rotations (inches)**
Alfalfa	6	4
Alkali sacaton	6	4
Blue grama	3	2
Little bluestem	6	4
Orchardgrass	5	3
Russian wildrye	5	3
Sand bluestem, Big bluestem	8	6
Sideoats grama	6	4
Smooth bromegrass	5	3
Switchgrass	8	6
Wheatgrasses Pubescent, Intermediate, Crested, or Siberian	5	3
Wheatgrasses Western , Bluebunch, Slender, or Thickspike,	6	4
Wheatgrass, tall	8	6
Yellow indiangrass	8	6
Tufted hair grass	6	4
Nebraska sedge	6	4
Prairie cordgrass	8	6
Tall fescue	5	3

ADDITIONAL SPECIFICATION FOR WILDLIFE SPECIES INCLUDING BROWSING ANIMALS

In a pasture where browsing animals occur the Browse Resource Evaluation, NRPH Exhibit 4-5, will be utilized to determine browse composition, the utilization planned and used for the pasture.

Browse utilization is limited to 50% by weight of the current season's growth if utilization occurs during the growing season. If utilization is limited to the dormant season, 65% by weight of the current season's growth may be utilized.

ADDITIONAL SPECIFICATION FOR WOODLAND GRAZING

Exclude grazing during timber or fuelwood harvesting periods until slash cleanup or piling has taken place and seeded areas or natural understory vegetation has had a chance to recover.

OPERATION AND MAINTENANCE

Operation. Prescribed Grazing will be applied on a continuing basis throughout the occupation period of all grazing units.

Adjustments will be made as needed to ensure that the goals and objectives of the prescribed grazing strategy are met.

Maintenance. All facilitating practices (i.e. Fence, Watering Facilities, and Pest Management) that are needed to effect adequate grazing distribution as planned by this practice standard will be maintained in good working order.

REFERENCES

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